



USAID FIRMS PROJECT

Date Processing

Pre-feasibility Study Report

August, 2014

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Data Page

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Author's Name: KPMG Taseer Hadi & Co. Chartered Accountants

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Abstract:

The USAID Pakistan Firms project aims to assist the Khyber Pakhtunkhwa Board of Investment and Trade (KPBOIT) in promoting investment and trade in the province. In an effort to achieve this aim preliminary feasibility studies have been conducted in order to highlight the investment opportunities available for international and domestic investors. The focus of these preliminary feasibility studies has been kept on the high economic growth sectors in KPK.

This report is a part of series of pre-feasibility studies conducted for identified projects. The information used for the preparation of this report has been gathered from various reliable sources including economic and statistical surveys carried out by the government of Pakistan. Competitor's data and industry averages have been used as a basis for the preparation of preliminary financial projections.

This report provides a financial and economic analysis of the opportunities available in the sector and identifies the potential technical strengths and constraints that may be encountered by the investor(s) in undertaking the identified project. It aims to help the reader develop an understanding of the operational aspects of the sector and its growth potential in the country particularly in the Khyber Pakhtunkhwa province. An outline for a business plan has been prepared for the identified project which identifies the operational requirements (equipment, human resource, infrastructure etc.). The analysis is supported by preliminary financial projections for the first ten years of the business.

Acronyms

GDP Gross Domestic Product

HR Human Resource

IRR Internal Rate of return
IT Information Technology

KIBOR Karachi Inter Bank Offer Rate

KPBOIT Khyber Pakhtunkhwa Board of Investment and Trade

KPK Khyber PakhtunKhwa

NGO Non-Governmental Organization

NPV Net present Value PKR Pakistani Rupee

ROI Return on Investment

SOW Scope of Work

US or USA United States of America

USAID United States Agency for International Development

USD United States Dollar

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Executive Summary

The Khyber Pakhtunkhwa Board of Investment and Trade (KPBOIT) has explored the opportunity to set up a date processing plant in the province. The project is aimed at exploring the date production potential of the province and assess commercial as well as financial viability of setting up a processing plant in the province.

The Khyber Pakhtunkhwa province enjoys rich date producing areas particularly the D.I.Khan district which is known for its famous "Dhakki" date. As per the available statistics, the province produced closed to 7,000 tons of dates during the year 2010-11. However, there is acute shortage of processing facilities providing ample opportunity for establishing a large sized date processing plant.

Majority of date exports of Pakistan are in the form of dried dates which yield lower price as compared to fresh dates. Key reason for lower volume of fresh date exports is lack of processing facilities. By establishing a date processing plant, the investors can target large export market, where brand of Dhakki dates is already established.

This pre-feasibility has been based on a series of assumptions with respect to design, size, costs, revenues, returns etc. However, these are indicative only and the investors might require to carry out their own feasibility studies.

Results of Financial Pre-feasibility

The results of this financial pre-feasibility indicate that development of a date processing plant at a total area of 3 acres, with a total capacity of 10 tons per day will be a profitable financial investment.

The results of this financial pre-feasibility indicate that the project is capable of generating following results:

- Equity IRR of 28.18% and
- Project IRR of 23.71%

Following are the key assumptions/considerations for the investors which were used in this prefeasibility and which form basis of projected returns from the project:

- Total project outlay is estimated at PKR 160 million, comprising of infrastructure cost of PKR 64 million and initial year date stock and running costs of PKR 96 million.
- The project is assumed to be financed through 40% equity and 60% debt. **Total equity** contribution will be required at PKR 64 million.
- The cost of equity has been assumed at 18%, whereas, cost of debt is estimated at KIBOR + 3% (13.5% total).
- The project is expected to be constructed in a time period of one year.
- Cost estimates are based on cost structures in comparable date processing plants in the country.

Project Background and Rationale

1.1 Introduction

Pakistan ranks third in date production in the world. As per the agricultural statistics of Pakistan (published by Pakistan Bureau of Statistics) Pakistan produced around 522,000 tons dates during the year 2010-2011. Khyber Pakhtunkhwa is blessed with high quality date producing areas. The major date producing district in KPK is D.I.Khan. The dates of the area are comparable with the well-known international brands. However, the area lacks adequate processing facilities and thus presents excellent opportunity for investment in date processing plant.

As per the available estimates, almost 93% of the exported dates comprise of dried dates while remaining 7% are exported as fresh. Pakistan receives lower price due to improper handling. The average export price per unit of fresh dates is almost double the price of dried dates. There appears to be good potential for fresh dates exports, provided proper cleaning, grading and packing facilities are created.

The Khyber Pakhtunkhwa Board of Investment and Trade (KPBOIT) encourages investors to enter in the date processing sector in the province particularly in the D.I.Khan district.

This study has been prepared to determine the financial feasibility of a large scale date processing plant.

1.2 Introduction to KPBOIT

Khyber Pakhtunkhwa Board of Investment and Trade (KPBOIT) is established for the promotion of trade and investment activities in Khyber Pakhtunkhwa (KPK). Government of Khyber Pakhtunkhwa is committed to bring economic prosperity in the Province through industrial and trade development and delegated this role to KP-BOIT.

KP-BOIT has accepted this challenging task towards achievement of its mission under the leadership of a dynamic Board Members comprising of eminent people of public and private sectors.

High motivation and commitment is there to achieve the vision to flourish the investment and trade in Khyber Pakhtunkhwa making it most favorite investment destination for investors.

Our land is blessed with abundance of natural resources of Oil & Gas, Hydel Power Generation, Tourist Destinations, Mines and Minerals along with Agriculture. The Province is located at an outstanding geographical location.

KPBOIT is striving for exploiting the tremendous potential of the Province into reality and is focused on meeting its important objective of facilitating local and foreign investors desirous of benefiting from this huge potential of the KPK. Our aim is creating an attractive business environment through proactive policy advocacy both at the Provincial and Federal level. Another important role of awareness among investors is to the tremendous opportunities available for investment in KPK and therefore facilitating them for undertaking such investment as a joint venture partners.

We also act as a focal point of contact for both foreign and domestic investors providing information and assistance in coordination with other Government Departments and Agencies.

KPBOIT's objectives are:

- To flourish and revive the investment climate of Khyber Pakhtunkhwa and to make it a lucrative investment friendly destination.
- To provide one window operation facility to investors by proactively engaging with all stakeholders to ensure successful investments.
- To act as a bridge between investors and all related government and semi Government Departments/Organizations.
- Advise the Provincial Government to create environment for investment through advocacy of specific investment friendly and comprehensive Public Private Partnership policies.

1.3 Sector Overview

Dates are one of the most important cash fruit crops of Pakistan. Dates are cultivated over an area of 90,000 hectares in Pakistan with an annual production of 522,000 tons in year 2010-11 (source: Pakistan Bureau of Statistics). Dates are produced in all four provinces of Pakistan. Dates grown in Pakistan have a well-established demand in both national and international markets.

Khyber Pakhtunkhwa's total date production stood at 6,800 tons during the year 2010-11 (source: Pakistan Bureau of Statistics). Key date producing area of the province is Dera Ismail Khan (D.I.Khan). One of the most famous products of this district is the "Dhakki date", which is exported to the Middle East, United States, and Europe.

Due to lack of proper processing facilities, the locally produced dates are not appropriately cleaned, packed and packaged according to the international standards, therefore, are considered low in quality. This phenomenon labels Pakistani dates as Industrial Quality dates fetching very humble price in the local and international markets. In the area of processing, there is an acute absence of value addition. This aspect is also a reason for severe date sector underperformance in financial terms.

Dates Processing Plant is the urgent need of the dates' sector for immediately improving the quality of the product. This would facilitate the growers / traders / exporters with fast, standardized and quality processing and packaging of dates overall enhance quality product. Currently unavailable or only limited to a few private sector units with limited capacities, the following processes can increase the quality and worth of dates and would add value for local markets and international buyers. These processes are Washing, Sorting, Grading, Pitting, Glazing, Polishing, Weighing, Fumigating and Packaging. Simple value addition such as dates blocks making and paste making can also be performed.

If the downstream stakeholders are provided with appropriate processing facilities, overall efficiency of the entire sector will dramatically improve due to consequent increase in the product quality and increased shelf life, which will eventually yield higher revenue generation. Hygienically processed and properly packed dates have a huge market potential in both, local and in the international markets. Local markets consume the major quantities during the holy month of Ramadan. However, during rest of the year, local dates processing factories and exporters remain busy and cater to the international markets.

1.4 Project Description

The presence of large amount of date produce in the D.I.Khan area of KPK area and lack of adequate processing facilities offer an attractive investment opportunity for setting up a date processing plant.

Establishment of date processing plant in the D.I.Khan would ensure continuous availability of the product and consequently would create dates processing requirements. Therefore, a DPP plant in the area would be extremely beneficial for growers & farmers. Only a nominal transportation charges would be incurred for transporting the product to the location due to proximity. This is also advantageous for saving time and would contribute to a high paced business activity.

A typical date processing plant involves the following key processes:

Dates Receiving

The product / dates would be brought to the facility and properly received by the staff noting the time and date of arrival.

Weighing

These dates would go into a weighing process. The necessary recording regarding types and total weight will be made.

Process Requirement

The customer would inform the staff regarding needed processes and the extent for example, processing only or processing and packaging in different size packaging options.

Fumigation

Fumigation will be the first step. It might take ten days before processing the fruit. Fumigation would prevent the fruit from infestation.

Grading or Sizing

In this stage, dates are graded according to the set formula. There are six different grades of dates. They are; Extra Class, Select A, Select B, Good Average Quality (GAQ), Fair Average Quality (FAQ) and the last is Industrial Dates. This process is done with the conveyor system.

Washing, Curing & Drying

Here dates would be washed in a circular washer with sprinklers and would be cured and dried with the help of a hot air blow system in a hygienic environment.

Metal Detection

This process is also carried out simultaneously with the grading or sorting. This is done for the sake of identifying any outside metal particle or item that could have been picked up with the crop. Since metals could prove to be highly injurious during chewing of dates, it is highly recommended for dates to pass through a metal detector.

Weighing & Packaging

At this stage, these cleaned and graded dates are weighed and packaged according to the requirements. Generally, these packaging could be 5 Kg, 10 Kg, 20 Kg or a 25 Kg for local or international requirements.

Quality Checks

Necessary quality checks are carried out during each and every process and random sample are tested for cleaning, grading or sizing etc.

1.5 KPBOIT assistance

In accordance with the objectives of the KPBOIT, it will serve as one window facilitation center for the investors with respect to the proposed project. KPBOIT will assist the investors, in relation to the proposed project, through:

- Obtaining requisite approvals from the provincial government;
- Provision of land for the project on lease basis (under consideration, however, financial feasibility is based on procurement of land by the investor);
- Provision of pre-feasibility study for the project; and
- Assistance in arranging utilities etc.

2. Financial Pre-feasibility

2.1 Project design assumptions

Keeping in view the date production potential of the KPK province in general and in the D.I. Khan area in particular, the proposed project has been estimated at a total production capacity of 10 tons per day. Assuming 300 working days in a year, total estimated annual production will be 3,000 tons.

The date processing plant (DPP) is expected to be constructed over a total area of three acres. Total human resource required for operations of the DPP is estimated at 30 employees comprising of 4 managerial and 26 skilled/semi-skilled labor.

2.2 Project set up costs

The total project outlay has been estimated at PKR 160 million. These costs comprise of capital cost of PKR 64 million, initial stock procurement of PKR 92 million and start up administrative costs of PKR 3.7 million.

The table below presents breaks down of project set up costs along with machinery requirements for the DPP:

Table 1: Project Capital Cost

Project Capital Cost	PKR M
Land 3 acres @ PKR 1.5 million per acre	4,500,000
Building and related infrastructure 16,000 SFT	21,600,000
Machinery and equipment	
Dates Washing Equipment (Sprinkler type)	3,650,000
Conveyor System for Manual Sorting	2,400,000
Sizing & Sorting Tables	800,000
Blower for Drying up & other equipment	3,200,000
Plastic Crates	100,000
Weighing Scales	450,000
Metal Detector	1,200,000
Shrink Wrap Machines	2,800,000
Generator 100 KVA	2,500,000
Utility connections	2,000,000
Furniture, fixtures & office equipment	4,000,000
Vehicles	2,000,000
Interest during construction	12,973,573
Total Capital Cost	64,173,573

The debt to equity ratio of 60:40 has been assumed in the financial pre-feasibility. At this rate, total equity contribution is estimated at PKR 64 million and total debt of PKR 88.7 million will be required at the start of the project. The project is expected to be constructed in a period of one year. Following financing assumptions are used in the financial pre-feasibility study:

Table 2: Project Financing Assumptions

Project financing assumptions	
Equity %	40%
Debt %	60%
Grace period - Years	2
Repayment (excluding grace period)	8
Base interest rate (KIBOR)	10.5%
Spread (%)	3.0%

2.3 Operating Assumptions

Assumptions relating to operating costs and revenues are based on operation of DPP with capacity of 10 tons per day. The following table summarizes key operational assumptions applied in the financial pre-feasibility study:

Table 3: Operating Assumptions

Operating assumptions	Units
Plant capacity (TPD)	10
Working days per annum	300
Capacity utilization	
Year 1	60%
Year 2	80%
Year 3 and onwards	90%
Raw dates cost (PKR/ KG)	95
Wastage factor	10%
Selling price (PKR/ KG)	150
HR requirements	
Manager and supervisors	4
Skilled and semi-skilled Labor	26
Manager and vet supervisors - annual salary cost	2,400,000
Farm Labor - annual salary cost	5,616,000
Annual escalation in costs %	8%
Annual escalation in selling price %	7%
Repair & maintenance (annual cost)	1,000,000
Packing cost - PKR/KG	8
Utilities costs - PKR/ month	250,000
Insurance cost as % of project costs	1%
Annual escalation in insurance costs %	5%

The table below summarizes working capital assumptions applied in the financial prefeasibility:

Table 4: Working Capital Assumptions

Working capital assumptions	
Raw material (inventory in months)	6
Finished product (months)	1
Trade debts (days)	30
Trade creditors (days)	60

2.4 Project Returns

Based on cash flow projections prepared after taking into consideration project set up costs and operating results, the project is expected to generate IRR of 28.18% for the equity investor. Please refer charts below for profitability analysis.

Project IRR	23.71%
Project NPV @15%	51,799,403
Equity IRR	28.18%
Equity NPV @15%	44,599,376

3. Appendices

Appendix -1 Indicative financial statements

Projected Balance Sheet

										A	mounts in PKR
	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Fixed Assets	64, 173, 573	61,057,178	57,940,783	54, 824, 387	51,707,992	48, 591, 597	45,475,201	42, 358, 806	39,242,410	36, 126, 015	33,009,620
Current Assets											
Stocks in trade	92, 340, 000	114,007,500	163, 881, 900	198, 768, 745	214, 298, 138	231, 043, 835	249,101,316	268, 573, 575	289,571,705	312, 215, 542	336,634,353
Trade debts	-	21, 370, 685	30, 488, 844	36,700,946	39, 270, 012	42,018,913	44,960,237	48, 107, 453	51,474,975	55,078,223	58,933,699
Cash & bank balances		16, 407, 145	11, 645, 400	27, 409, 494	59, 148, 839	90, 863, 207	122,281,065	153, 089, 129	182,927,455	231, 754, 085	278,728,870
	92, 340, 000	151, 785, 329	206, 016, 144	262, 879, 185	312,716,989	363, 925, 954	416,342,619	469, 770, 157	523,974,134	599,047,850	674,296,922
Total Assets	156, 513, 573	212,842,508	263, 956, 926	317,703,572	364, 424, 981	412,517,551	461,817,820	512, 128, 962	563,216,545	635, 173, 865	707,306,542
Share Capital & Reserves											
Share capital	64,067,029	64,067,029	64,067,029	64,067,029	64,067,029	64,067,029	64,067,029	64,067,029	64,067,029	64,067,029	64,067,029
Retainedearnings	(3,654,000)	18, 085, 122	57, 251, 968	106, 784, 302	158, 748, 411	213, 158, 267	270,019,753	329, 329, 835	391,075,721	455, 234, 012	519,707,396
	60, 413, 029	82, 152, 151	121, 318, 998	170,851,331	222,815,440	277, 225, 296	334,086,782	393, 396, 864	455,142,750	519, 301, 042	583,774,425
Long term debt	88, 704, 059	80, 309, 048	70,780,712	59,966,049	47,691,407	33, 759, 689	17,947,188	-	-	-	-
Current lia bilities											
Creditors/ liabilities	-	34,739,924	49, 273, 265	59, 560, 752	64, 322, 123	69, 464, 229	75,017,520	81,014,883	87,491,833	94, 486, 726	102,040,988
Tax payable	-	7, 246, 374	13,055,616	16, 510, 778	17,321,370	18, 136, 619	18,953,829	19,770,027	20,581,962	21, 386, 097	21,491,128
Current portion - LT debt	7, 396, 485	8, 395, 011	9, 528, 337	10, 814, 662	12, 274, 642	13,931,719	15,812,501	17,947,188	-	-	
	7,396,485	50, 381, 308	71,857,217	86, 886, 192	93, 918, 134	101, 532, 566	109,783,850	118,732,098	108,073,795	115,872,823	123,532,116
Total equity & liabilities	156, 513, 573	212,842,508	263, 956, 926	317,703,572	364, 424, 981	412,517,551	461,817,820	512, 128, 962	563,216,545	635, 173, 865	707,306,542

Projected Income Statement

									,	Amounts in PKR
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Revenue	260,010,000	370,947,600	446,528,174	477,785,146	511,230,106	547,016,213	585,307,348	626,278,863	670,118,383	717,026,670
Costs										
Raw dates cost	184,680,000	265,939,200	323,116,128	348,965,418	376,882,652	407,033,264	439,595,925	474,763,599	512,744,687	553,764,262
Packing cost	13,996,800	20,155,392	24,488,801	26,447,905	28,563,738	30,848,837	33,316,744	35,982,083	38,860,650	41,969,502
Salary costs - management	2,400,000	2,592,000	2,799,360	3,023,309	3,265,174	3,526,387	3,808,498	4,113,178	4,442,233	4,797,611
Salary costs - labor	5,616,000	6,065,280	6,550,502	7,074,543	7,640,506	8,251,746	8,911,886	9,624,837	10,394,824	11,226,410
Repair & maintenance	1,000,000	1,080,000	1,166,400	1,259,712	1,360,489	1,469,328	1,586,874	1,713,824	1,850,930	1,999,005
Utilities cost	3,000,000	3,240,000	3,499,200	3,779,136	4,081,467	4,407,984	4,760,623	5,141,473	5,552,791	5,997,014
Insurance costs	641,736	673,823	707,514	742,889	780,034	819,035	859,987	902,987	948,136	995,543
Depreciation	3,116,395	3,116,395	3,116,395	3,116,395	3,116,395	3,116,395	3,116,395	3,116,395	3,116,395	3,116,395
	214,450,931	302,862,090	365,444,301	394,409,308	425,690,454	459,472,978	495,956,933	535,358,377	577,910,646	623,865,741
Margin	45,559,069	68,085,510	81,083,873	83,375,838	85,539,652	87,543,236	89,350,415	90,920,486	92,207,737	93,160,928
Other costs										
Admin & general expenses	3,600,000	3,888,000	4,199,040	4,534,963	4,897,760	5,289,581	5,712,748	6,169,767	6,663,349	7,196,417
Financial costs	12,973,573	11,975,048	10,841,722	9,555,396	8,095,417	6,438,340	4,557,558	2,422,870	-	-
	16,573,573	15,863,048	15,040,762	14,090,359	12,993,177	11,727,921	10,270,306	8,592,638	6,663,349	7,196,417
Profit before tax	28,985,495	52,222,462	66,043,111	69,285,479	72,546,475	75,815,314	79,080,109	82,327,848	85,544,389	85,964,512
Tax	7,246,374	13,055,616	16,510,778	17,321,370	18,136,619	18,953,829	19,770,027	20,581,962	21,386,097	21,491,128
Profit after tax	21,739,122	39,166,847	49,532,333	51,964,109	54,409,856	56,861,486	59,310,082	61,745,886	64,158,291	64,473,384

Projected cash flows statement

										A	mounts in PKR
	Year 0	Year 1	Year 2	Year 3	Year4	Year 5	Year6	Year 7	Year 8	Year9	Year10
Profit before taxation	_	28.985.495	52,222,462	66,043,111	69,285,479	72,546,475	75,815,314	79,080,109	82,327,848	85,544,389	85, 964, 512
Adjustment of non-cash items				,,	,,			, ,	,,	,,	_,,
Depreciation	-	3,116,395	3,116,395	3, 116, 395	3,116,395	3,116,395	3,116,395	3,116,395	3,116,395	3,116,395	3, 116, 395
Financial charges	-	12,973,573	11,975,048	10,841,722	9,555,396	8,095,417	6,438,340	4,557,558	2,422,870	-	-
-	-	45,075,464	67,313,905	80,001,228	81,957,270	83, 758,287	85,370,050	86,754,063	87,867,114	88,660,784	89, 080, 907
Working capital changes											
current as sets	-	(43,038,185)	(58,992,559)	(41, 098, 947)	(18,098,459)	(19,494,598)	(20,998,806)	(22,619,475)	(24,365,652)	(26,247,086)	(28, 274, 287)
current Liabilities	-	34,739,924	14,533,341	10, 287, 487	4,761,371	5,142,105	5,553,292	5,997,363	6,476,950	6,994,894	7, 554, 262
	-	(8,298,261)	(44,459,218)	(30, 811, 490)	(13,337,088)	(14, 352,491)	(15,445,514)	(16,622,112)	(17,888,702)	(19,252,192)	(20, 720, 025)
-	-	36,777,203	22,854,688	49, 189, 768	68,620,182	69, 405, 796	69,924,536	70,131,950	69,978,412	69,408,592	68, 360, 882
Tax es pai d	-	-	(7,246,374)	(13,055,616)	(16,510,778)	(17, 321, 370)	(18,136,619)	(18,953,829)	(19,770,027)	(20,581,962)	(21, 386, 097)
Interest paid	(12,973,573)	(12,973,573)	(11,975,048)	(10,841,722)	(9,555,396)	(8,095,417)	(6,438,340)	(4,557,558)	(2,422,870)	-	-
Cash flow from Operations	(12,973,573)	23,803,630	3,633,266	25, 292, 431	42,554,008	43, 989,009	45,349,577	46,620,564	47,785,514	48,826,630	46, 974, 785
Capital expenditure	(51,200,000)										
Stock & set-up costs	(95,994,000)										
Equity	64,067,029										
Debt	96,100,544	(7,396,485)	(8,395,011)	(9, 528, 337)	(10,814,662)	(12, 274, 642)	(13,931,719)	(15,812,501)	(17,947, 188)	-	-
To tal cash generated	-	16,407,145	(4,761,745)	15, 764, 094	31,739,346	31,714,367	31,417,859	30,808,063	29,838,326	48,826,630	46, 974, 783
Op en ing cash	-		16,407,145	11,645,400	27,409,494	39,148,839	90.863,207	122,281,065	153,089,129	182,927,455	231, 754, 085
Closing cash	-	16,407,145	11,645,400	27, 409, 494	59,148,839	90, 863, 207	122,281,065	153,089,129	182,927,455	231,754,085	278, 728, 870

